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BOOK REVIEWS

METHODS AND PRINCIPLES

A Laboratory Manual of Anthropometry. HARRIS H. WILDER. P. Blakiston's Son & Co.: Philadelphia, 1920. 193 pp., 43 ills.

This book of two hundred pages, opens with the sentence:

It has long been a reproach to American science that now, for many years, the branch of Physical Anthropology has been so little cultivated, and this the more because of our early prestige in this very field and because of our unrivalled opportunities. . . . It was with a view to directing a broader American attention to this vitally important branch of Anthropology that the author . . . drew up, based largely upon the prescription of 1906, a set of rules for the guidance of the laboratory student . . .

The intention of publishing a book on anthropometry in America is to be lauded, even though rules for measuring have been published repeatedly in American journals (see: Wilder, in *Science*, LIII, p. 20). Wilder's manual will, no doubt, help to stimulate anthropometric work and will be especially of assistance in college courses on anthropology. The student receives from it guidance as to *what* and *how* to measure both the outer body and the skeletal parts of man, becomes acquainted with the chief anthropometric instruments, and learns what absolute measurements can to advantage be combined to form indices. The technical instructions are in parts enlivened by examples of the results of measurements taken on different races.

From a critical point of view, however, a perusal of the manual leaves an impression of a certain unevenness and partiality in the arrangement and selection as well as the illustration of the text. The subject matter is divided into osteometry, comprising 114 pages, and somatometry, to which only 16 pages are devoted, a disproportion which seems hardly justifiable. The scanty bibliography (in footnotes), which is intended as an introduction to the literature on anthropometry, omits in many instances very important publications while giving certain specialized papers of no general interest. In the part on "biometric" methods, which might more correctly be called "statistical" methods, one fails to find any mention of the correlation coefficient, which is as important as the coefficient of variation. Also the formulae for the various probable errors should have been included in this discussion. The lengthy chapter on craniometry would gain in value by a short enumeration of

the points for determining age, sex, and normality of the skull. It also may be mentioned that the list of measurements on one hundred girls in Appendix B would be improved by grouping the girls according to age and race.

In going through the book more in detail, a number of items are encountered which are open to criticism. The historical review in the introduction is incomplete, neither Blumenbach, Retzius, nor R. Virchow receiving any mention. In the description of anthropometric instruments, particularly of those for taking angles, Mollison's convenient craniophore should not have been omitted. The caliper in figure 1 is not the one made by Hermann, as stated in the title of the figure, and has not a straight scale as described in the accompanying text, but apparently is the same as pictured in figure 2. In describing the method used in placing a skull in the Frankfort horizontal (p. 22) four points are mentioned as involved in this horizontal. Although corresponding to the original draft of the Frankfort convention, practice has since taught us the untenability of this provision, all the more so as three points are sufficient to establish a plane. It should have been pointed out at this place that two poria and the left orbitale suffice to determine the ear-eye plane. On page 57 the statement is made:

Few people, even anatomists, realize to how great an extent the axis of the human skull has become shortened and bent together.

This inclusion of anatomists is, to say the least, unnecessary in a manual for students, and no doubt incorrect. In figure 26 the various facial height measurements are correctly termed "heights," but on page 57 and others the author speaks of the same measurements as facial "lengths," and the facial "length" measurements of figure 26 are referred to in the text as facial "depth." This regrettable mix-up would tend to confuse the student. On page 58 the assertion is made that, in the triangle formed by lines between nasion, basion, and prosthion, the angle with the apex at the basion is the most important. The reason for this preference of one angle is difficult to see and open to argument. On page 71, G. Schwalbe is said to have used the glabella-inion line instead of the nasion-inion line, "in accordance with the usage of the time." This should more properly read, "according to the subject under investigation." In the discussion of the vertebrae (p. 76 and following) the author speaks of their "antero-posterior thickness," meaning the *height of the corpus*, and not until page 112 does he explain, in a footnote, that "anterior" and "posterior" stand for "superior" and "inferior." If these terms have to be changed at all, it would be clearer to use *cranial*

and *caudal*. The footnote just mentioned contains the statement that "the nomenclature used is the morphological one, as related to any mammal"; but on page 77, in some formulae for indices, the author calls his "antero-posterior thickness" the "vertical diameter of vertebra," which is inconsistent. The comment on the table of lumbar indices (p. 77) reads in part:

In the first and second (lumbar vertebrae) the bodies are wedge-shaped, with the lesser thickness (the edge) pointing backwards (dorsally); . . . in the fourth and fifth the wedge is turned around, with the edge pointing forwards (ventrally).

In both instances the contrary is true, a fact which is well known, and which, furthermore, is shown by the table on page 77. How unevenly the subject matter is treated in certain parts is best shown by the fact that, whereas nearly two pages are devoted to the patella, the discussion of the sternum is exhausted by the statement that "very little has as yet been done with its anthropometry. . . ." This is not very flattering to investigators of the metric features of the sternum, such as Anthony, Bogusat, Dwight, Eggeling, Henke, Krause, Lubosch, Martin, Petermüller, Strauch, Weisgerber, and others. The description of measurement 6, on page 84, is unintelligible; the instruction that it be taken in a plane parallel to the long axis of the bone is of little help, inasmuch as there are innumerable planes parallel to one line. The first measurement on the radius (p. 98) is called "greatest maximum length"; would not one of these epithets suffice?

In addition to the defects enumerated above, there are many other minor errors and discrepancies among which the following may be mentioned: Page 30, line 13 from bottom: multiplying column *two* (instead of *four*) by column three; page 49, lines 12 and 8 from bottom: *opisthocranion* (instead of *opisthocranium*); page 75, figure 28: the measurements "naso-alveolaire" and "naso-sous-nasale" should be reversed in the diagram; page 82, table: some of the figures are incorrectly copied; page 84, No. 3: epicondyles, according to B. N. A. (instead of "condyles"); page 90, line 9 from bottom: in the formula it should read "length of chord *a b*" (instead of *A E*); page 92, line 6 from top: there is no "*n*" in figure 33 as stated in the text; page 94, line 6 from top: "line *A E* (Fig. 34)" is not to be found in that figure; page 116, footnote, line 5 from bottom: Anthropologie (instead of "Anatomie").

Such a considerable number of oversights and actual mistakes, which have been cited only in part, would suggest the advisability of a careful revision of the book, so that it might be of more value to the student.

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